AMENDMENTS TO THE SPECIFICATION

Please amend the Specification at paragraph [0019] as follows:

[0019] A summary of main process after the initialization process is shown in FIG. 2. The data processing apparatus 12, first, reads a component identifier (component number) of the highest importance from the important component selection apparatus 13. Given that the component number is i, then, the data processing apparatus 12 reads a component i from the data storage apparatus 11 and performs data processing for the component i. For a specific data processing, an appropriate program can be made as software for the data processing apparatus 12 according to the application purpose. In this process, not only the component i but also any other one or more components, for example, a component j, can be updated. For a component to be updated, importance of that component is calculated. After this, the importance and component number(s) of a component(s) to be updated are sent out to the important component selection apparatus 13 and an updated value(s) of the component(s) is/are sent out to the data storage apparatus 11. When a series of these processes is completed, immediately, the most important component is read from the important component selection apparatus 13 and the same processes are repeated. The data processing apparatus 12 continuously performs this ~~oop~~ loop process until a termination condition which is set by the program is reached.

[0019] A summary of main process after the initialization process is shown in FIG. 2. The data processing apparatus 12, first, reads a component identifier (component number) of the highest importance from the important component selection apparatus 13. Given that the component number is i, then, the data processing apparatus 12 reads a component i from the data storage apparatus 11 and performs data processing for the component i. For a specific data processing, an appropriate program can be made as software for the data processing apparatus 12 according to the application purpose. In this process, not only the component i but also any other one or more components, for example, a component j, can be updated. For a component to be updated,

importance of that component is calculated. After this, the importance and component number(s) of a component(s) to be updated are sent out to the important component selection apparatus 13 and an updated value(s) of the component(s) is/are sent out to the data storage apparatus 11. When a series of these processes is completed, immediately, the most important component is read from the important component selection apparatus 13 and the same processes are repeated. The data processing apparatus 12 continuously performs this loop process until a termination condition which is set by the program is reached.

Please amend the Specification at paragraph [0033] as follows:

[0033] In the case of PUSH, when a condition is such that a value Pin of the importance of input data Din is ~~greater~~ less than or equal to a value P(k) of the importance of data R(k) in the register k, i.e., $P(k) \geq Pin$, R(k) does not need to be changed and thus a selector/arithmetic unit output is R(k). This condition is indicated only by a comparator output G(k)=0 and does not depend on other comparator outputs and thus G(k-1) = *, G(k+1) = *, S(k) = *, and LS(k) = *. Conditions such that $P(k-1) \geq Pin > P(k)$ and $k \leq Ks$ are conditions for an insertion location of Din. Specifically, they are indicated by G(k-1)=0, G(k)=1, G(k+1) = *, S(k)= *, and LS(k)=0 and a selector/arithmetic unit output to the k is Din. Conditions such that $Pin > P(k-1) \geq P(k)$ and $k \leq Ks$ indicate that R(k) has lower importance than Din and $P(k) \geq P(Ks)$, and thus, R(k) should be moved down one position by the insertion of Din. That is, under conditions that G(k-1)=1, G(k)=1, G(k+1) = *, S(k) = *, and LS(k)=0, R(k-1) which is one position above is assigned to R(k), and thus, the selector/arithmetic processing output is R(k-1). In the case in which k>Ks, even if Din is inserted, R(Ks) is deleted and thus it indicates a condition that the position does not change. In the case also in which Din is not inserted, the position does not change and thus this does not depend on a value of importance, and under conditions that G(k-1) = *, G(k) = *, G(k+1) = *, S(k) = *, and LS(k)=1, a selector/arithmetic unit output is R(k).

[0033] In the case of PUSH, when a condition is such that a value Pin of the importance of input data Din is less than or equal to a value P(k) of the importance of data R(k) in the register k, i.e., $P(k) \geq Pin$, R(k) does not need to be changed and thus a selector/arithmetic unit output is R(k). This condition is indicated only by a comparator output G(k)=0 and does not depend on other comparator outputs and thus G(k-1) = *, G(k+1) = *, S(k) = *, and LS(k) = *. Conditions such that $P(k-1) \geq Pin > P(k)$ and $k \leq Ks$ are conditions for an insertion location of Din. Specifically, they are indicated by G(k-1)=0, G(k)=1, G(k+1) = *, S(k)= *, and LS(k)=0 and a selector/arithmetic unit output to the k is Din. Conditions such that $Pin > P(k-1) \geq P(k)$ and $k \leq Ks$ indicate that R(k) has lower importance than Din and $P(k) \geq P(Ks)$, and thus, R(k) should be moved down one position by the insertion of Din. That is, under conditions that G(k-1)=1, G(k)=1, G(k+1) = *, S(k) = *, and LS(k)=0, R(k-1) which is one position above is assigned to R(k), and thus, the selector/arithmetic processing output is R(k-1). In the case in which k>Ks, even if Din is inserted, R(Ks) is deleted and thus it indicates a condition that the position does not change. In the case also in which Din is not inserted, the position does not change and thus this does not depend on a value of importance, and under conditions that G(k-1) = *, G(k) = *, G(k+1) = *, S(k) = *, and LS(k)=1, a selector/arithmetic unit output is R(k).